



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/07622

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> H01M8/04, H01M8/10, H01M8/24

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> H01M8/04, H01M8/10, H01M8/24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Toroku Jitsuyo Shinan Koho	1994-2003
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 97/21256 A1 (CALIFORNIA INSTITUTE OF TECHNOLOGY), 12 June, 1997 (12.06.97), Whole document; Figure 1 to 12 & JP 11-510311 A & JP 2002-110177 A & JP 2002-110197 A & JP 2002-110199 A & JP 2002-117863 A & JP 2002-117864 A	1, 4-7, 2-3
Y	EP 1134830 A2 (SAMSUNG ELECTRONICS CO., LTD.), 19 September, 2001 (19.09.01), Whole document; Figs. 1 to 13 & JP 2001-283892 A & US 2002/0076597 A1	1, 4-7, 2-3
Y	WO 02/07242 A2 (THE JOHNS HOPKINS UNIVERSITY), 24 January, 2002 (24.01.02), Whole document; Figs. 1 to 10 (Family: none)	1, 4-7, 2-3

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&amp;" document member of the same patent family

Date of the actual completion of the international search  
16 September, 2003 (16.09.03)Date of mailing of the international search report  
30 September, 2003 (30.09.03)Name and mailing address of the ISA/  
Japanese Patent Office

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## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2002-151134 A (Sony Corp.), 24 May, 2002 (24.05.02), Full text; Figs. 1 to 9 (Family: none)	1, 4-7, 2-3
Y	EP 0982788 A2 (GENERAL MOTORS CORP.), 01 March, 2000 (01.03.00), Claims; drawings & JP 2000-67896 A	1, 4-7, 3
Y	EP 1069636 A2 (General Motors Corp.), 17 January, 2001 (17.01.01), Whole document; Figs. 1 to 5 & JP 2001-43880 A & US 2002/0051899 A1	1, 4-7, 3
Y	JP 2002-8702 A (Idemitsu Kosan Co., Ltd.), 11 January, 2002 (11.01.02), Full text; Figs. 1 to 2 (Family: none)	1, 4-7, 3
Y	JP 64-76682 A (Mitsubishi Electric Corp.), 22 March, 1989 (22.03.89), Full text; Figs. 1 to 2 (Family: none)	2-3
A	JP 2000-268836 A (Sony Corp.), 29 September, 2000 (29.09.00), (Family: none)	1, 4-7
P, A	DE 10161234 A1 (Plug Power, L.L.C.), 11 July, 2002 (11.07.02), & US 2002/0081466 A1 & JP 2002-289240 A	1, 4-7
A	EP 0055016 A1 (WESTINGHOUSE ELECTRIC CORP.), 30 June, 1982 (30.06.82), & JP 57-130381 A & US 4490444 A	2-3
A	DE 10042210 A1 (SOFCo), 29 March, 2001 (29.03.01), & JP 2001-85041 A & US 6368739 B1	2-3